



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
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PRELIMINARY ISSUE

650.7110

Job Sheet 210775



Part No: 650.7110

Job Qty: 5 pcs

Part Name: Disc Retainer



Part Weight: 0 lbs

Job Created: 6/22/20

Due Date: 7/15/20

Type: SOLD

Status: New

Priority: Medium

Job Tracking No:

Created By: Marie Lajeunesse

Description:

Note: 650.7100 REV.NC IPP REV:A 20.06.22 NEW ISSUE DD VERF:JFS

Ship Via:

139 Valve

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	SL-154 - 1	5 pcs	7/15/20		1.00	1.25	Doosan - 1		JB 20-07-07
							NLX 2500SY - 1		
							SL-154 - 1		
							SL-2500Y - 1		
110	QC 2	5 pcs	7/15/20		0.00	0.00	QC 2 - 1		JB 20-07-07
							QC 2 - 12		
							QC 2 - 14		
							QC 2 - 17		
							QC 2 - 19		
							QC 2 - 2		
							QC 2 - 20		
							QC 2 - 22		
							QC 2 - 23		
							QC 2 - 25		
							QC 2 - 32		
							QC 2 - 33		
							QC 2 - 35		
							QC 2 - 39		
							QC 2 - 4		
							QC 2 - 40		
							QC 2 - 44		
							QC 2 - 45		
							QC 2 - 48		
							QC 2 - 49		
							QC 2 - 50		
							QC 2 - 51		
							QC 2 - 52		
							QC 2 - 57		
							QC 2 - 62		
							QC 2 - 63		
							QC 2 - 8		



Container No: S286635



Part: 650.7110

Job No: 210775

Serial No/Batch: S286635

Revision: rev.nc

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.
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CANADA
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Date: 07/07/20

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QC 2 - 66					
QC 2 - 64					
QC 2 - 65					
QC 2 - 5					
QC 2 - 71					
QC 2 - 73					
QC 2 - 69					
QC 2 - 76					
QC 2 - 86					
QC 2 - 83					
QC 8 - 12	0.00 0.00	7/15/20	5 pcs	120 QC 8	
QC 8 - 14					
QC 8 - 17					
QC 8 - 20					
QC 8 - 25					
QC 8 - 3					
QC 8 - 32					
QC 8 - 33					
QC 8 - 35					
QC 8 - 39					
QC 8 - 4					
QC 8 - 44					
QC 8 - 45					
QC 8 - 49					
QC 8 - 58					
QC 8 - 8					
QC 8 - 9					
QC 8 - 68					
QC 8 - 67					
QC 8 - 1 (A)					
QC 8 - 47					
QC 8 - 40					
QC 8 - 52					
QC 8 - 23					
QC 8 - 57					
QC 8 - 76					
QC 8 - 61					
QC 8 - 66					
QC 8 - 73					
QC 8 - 82					
Packaging 3 - 1 - B4B	0.00 0.00	7/15/20	5 pcs	160 Packaging 3-1 - Stock - B4B	
Packaging 3 - 2 - B4B					
Packaging 3 - 3 - B4B					
Packaging 3 - 4 - B4B					
Packaging 3 - 5 - B4B					
Packaging 3 - 6 - B4B					
Packaging 3 - 7 - B4B					
Packaging 3 - 8 - B4B					
Packaging 3 - 9 - B4B					
Packaging 3 - 10 - B4B					
Packaging 3 - 11 - B4B					
Packaging 3 - 12 - B4B					
Packaging 3 - 13 - B4B					
Packaging 3 - 14 - B4B					
Packaging 3 - 15 - B4B					
Packaging 3 - 16 - B4B					
Packaging 3 - 17 - B4B					
Packaging 3 - 18 - B4B					
Packaging 3 - 19 - B4B					
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7/20/2020

				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	PC GATBD
				Packaging 3 - 24 - B4B	JUL 10 2020
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 37 - B4B	
170 QC 21 - SA	5 pcs	7/15/20	0.00 0.00	QC 21 - SA - 21	DAS
				QC 21 - SA - 70	21
				QC 21 - SA - 9	9-88
Part Op 100 - ***CRITICAL PART - EXTREME CARE MUST BE TAKEN*** 1-Machine as per folio F FOLIO REV: <u>4A</u> Descriptions: DWG REV: <u>N/C</u> 2-Debur 110 - QC2- Inspect parts off machine FAI/FAIB 120 - QC8- Inspect parts - second check 160 - Identify as per dwg & Stock 170 - QC21- Final Inspection - Work Order Release					
Job BOM					
Part / Item	Component Name	Quantity	Operation	Container	
M303R0.500	303 Round Bar 0.500"	.2050 ft (.041 ea)	100-SL-154 - 1	S274010	
Job Allocations					
Operation	Component Part	Required	Inventory	Allocated	
100-SL-154 - 1	M303R0.500	0	54	0	
Part Specifications					
Specifications could not be found.					

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Entered: _____ Date: _____

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE



NCR No. _____

Route update only ☐

Job: <u>210735</u>		DISPOSITION		DEPARTMENT/PROCESS							
Part No. <u>660.710</u>		Rework ☐ Scrap ☐ Use-as-is ☒		Skid-tube Machining ☐ Large Fab ☐		Cross tube Small Fab ☐ Finishing ☐		Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐		Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐	
Date: <u>JUL 7, 2020</u>	Sequence #: _____	QTY Affected: _____		Disposition		Completed By <u>DB 20.07.07</u> Lead hand / Supervisor <u>and 2007/09</u> QC / QA Coordinator _____					
Description Work Order Deviation <u>Ø0.187 HOLE MUST BE DRILLED TO Ø0.196 TO ACCOMMODATE MANUFACTURING TOLERANCES.</u>				Disposition <u>- THIS DEVIATION IS ACCEPTABLE. - PLEASE SEE ATTACHED DRAWING. - DRAWINGS WILL BE UPDATED</u>							
Root Cause				FAULT CATEGORY							
Operator ☐ Manufacturing Process ☒ Equip/Tooling ☒ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐				Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Other/Details: _____							
				Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread ☐							

Michael Lee

From: Tyler Cross
Sent: Tuesday, July 7, 2020 3:31 PM
To: Michael Lee; Ketan Tailor; Jason Gardiner; Jean Francois Sauve
Cc: Steven Drouin
Subject: RE: 139 valve

I think I'm fine with it the way mike has it modeled. I agree we should still be able to torque it in place.
Tyler

From: Michael Lee <mlee1@dartaero.com>
Sent: Tuesday, July 7, 2020 11:31 AM
To: Ketan Tailor <ktailor@dartaero.com>; Tyler Cross <tcross@dartaero.com>; Jason Gardiner <jgardiner@dartaero.com>; Jean Francois Sauve <jfsauve@dartaero.com>
Cc: Steven Drouin <sdrouin@dartaero.com>
Subject: RE: 139 valve

Hey Ketan and Tyler,

If Tyler agrees this is acceptable then we can proceed with manufacturing at Rev. NC with a deviation.
I will print out Tyler's response and attached it to the deviation that I create.
The drawing will need to be updated before the FAI is completed.

@Ketan, thanks for verifying the 10 ft-lbs torque, I should have read further in the MPP...
I still don't see the rads being an issue.

Cheers,

Mike

From: Ketan Tailor <ktailor@dartaero.com>
Sent: Tuesday, July 7, 2020 2:07 PM
To: Michael Lee <mlee1@dartaero.com>; Tyler Cross <tcross@dartaero.com>; Jason Gardiner <jgardiner@dartaero.com>; Jean Francois Sauve <jfsauve@dartaero.com>
Cc: Steven Drouin <sdrouin@dartaero.com>
Subject: RE: 139 valve

The part is actually torque to 10 ft-lbs. according to the drawing.

@Michael Lee Can we deviate the dimension for this one work order and then update the drawing?
Or just update the drawing right away and issue new work orders?

Thanks,
Ketan

From: Michael Lee <mlee1@dartaero.com>
Sent: July-07-20 2:03 PM
To: Tyler Cross <tcross@dartaero.com>; Ketan Tailor <ktailor@dartaero.com>; Jason Gardiner

<jgardiner@dartaero.com>; Jean Francois Sauve <jfsauve@dartaero.com>

Cc: Steven Drouin <sdrouin@dartaero.com>

Subject: RE: 139 valve

Hey Guys,

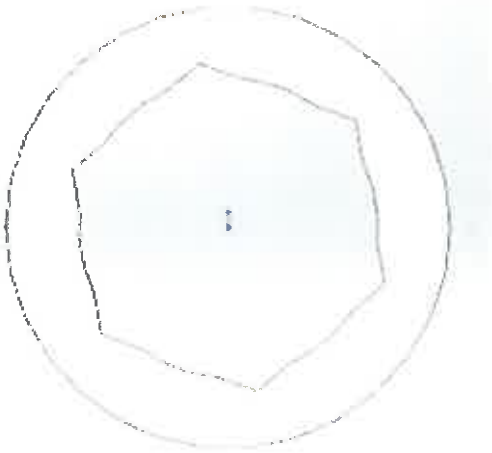
The 0.195 pilot drill will leave the "flats" with a very subtle radius on each flat. (see CAD screenshot below)

There is no torque applied to this part during assembly therefore I do not see any issues with having the small rads on each flat. Does everyone agree ?

@Ketan, if everyone agrees, this drawing will need to be revised to change the $\varnothing 0.187$ circular hole to $\varnothing 0.195 \pm 0.010$.

Cheers,

Mike



From: Tyler Cross <tcross@dartaero.com>

Sent: Tuesday, July 7, 2020 1:24 PM

To: Ketan Tailor <ktailor@dartaero.com>; Jason Gardiner <jgardiner@dartaero.com>

Cc: Michael Lee <mlee1@dartaero.com>; Steven Drouin <sdrouin@dartaero.com>

Subject: RE: 139 valve

How can you get .1895" across the Flats when it predrills .195 round hole? Wouldn't the minimum be .195 across flats minimum and then it's no longer a 3/16 hex anymore. Maybe I'm confused here.

Based on an internet search the max of the Allen wrench is .1875" so either way the print needs to be updated. I'll measure one that we have here and see what the flats are coming out too.

Tyler

From: Ketan Tailor <ktailor@dartaero.com>

Sent: Tuesday, July 7, 2020 10:09 AM

To: Tyler Cross <tcross@dartaero.com>; Jason Gardiner <jgardiner@dartaero.com>

Cc: Michael Lee <mlee1@dartaero.com>; Steven Drouin <sdrouin@dartaero.com>

Subject: FW: 139 valve

Hey Guys,

We are manufacturing the 650.7110 Disc Retainer at Revision NC and we might need a deviation.

It's for the circumscribed hole in the 3/16 hex. The broaching tool requires a 0.195 predrilled hole (shown in IMG_0043).

This would put the hole out of tolerance by 0.003, is this acceptable?

Thanks,
Ketan

From: Steven Drouin <sdrouin@dartaero.com>

Sent: July-07-20 12:11 PM

To: Ketan Tailor <ktailor@dartaero.com>

Subject: 139 valve

Work Order:	210775
Part Number:	650.7110
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Measured by:	JB 9-89
Date:	20.07.07

Checked by:	<i>ML</i>
Date:	20/07/09

QC Inspector: _____
Date: _____

Engineering Approval:
(If necessary)

Date:

Rev	Date	Change	Revised by	Approved
A	7-Jul-20	New Issue	MG	